

Voices of the Bay: A Voyage of Science, Community and Heritage through Local Fisheries Knowledge \$21,500

This project develops a place-based curriculum, lesson plans, and activities that use local fisheries as the context for learning about the marine environment, the ecological and human dimensions of marine resource use, and its management. The overall project will expose students to the rich fishing history of the Monterey Bay area.

Project Lead: Seaberry Nachbar

❖ Hired and trained new Fisheries Education Specialist

Sabrina Beyer was hired to oversee facilitation and implementation of curriculum development, pilot program, teacher workshop and Fishermen in the Classroom Program.

❖ Designed, developed and finalized 3 fisheries education modules

The Voices of the Bay fisheries education curriculum introduces 8th-12th grade and community college students to commercial fisheries and the rich cultural tradition of Monterey Bay fishing. The first of three modules is "Balance in the Bay," where students are introduced to the concepts of sustainable fishing and thinking critically around a resource management issue through a simulated squid fishing activity. The second module, "From Ocean to Table" is a socio-economic study tracking the costs involved in bringing seafood from the ocean to the dinner plate. In the third module, "Capturing the Voices of the Bay", students learn the skills required to interview members of the local fishing community to capture their unique stories and knowledge. These modules are designed to be adaptable to other coastal communities. All modules are aligned with National, California State (science, language arts and social science) and Ocean Literacy standards.

❖ Piloted curriculum in 5 Monterey, Santa Cruz and San Benito County schools

Five teachers from Monterey Bay area schools piloted the draft curriculum during November 2008 through January 2009. Teachers Geoff von Saltza (Monterey High School/Monterey Academy of Oceanographic Science), Jeff Manker (Gilroy High School), Terry Umstead (San Lorenzo Valley High School), Sandy Hunter (Salinas High School), and Stephanie Zugrave (International School of Monterey) implemented modules in their classes. Simultaneously, an evaluation was conducted to help in finalizing the curriculum. Each of these schools have significant underserved populations (MPUSD: 67%, SC County: 26%, Watsonville: 78%, Gilroy USD: 66%).

- ❖ **Conducted a one-day focus group** with sanctuary staff, 6 teachers and our curriculum developers to introduce teachers to the curriculum in their classes.
- ❖ **Conducted a 4-hour focus group** with scientists, advisory group members and sanctuary staff to review curriculum.
- ❖ **Completed a formative evaluation during the pilot stage** (see attached document), which resulted in significant revisions and the final products (see sample of "Capturing the Voices" curriculum module).
- ❖ **Formatted and laid out curriculum to produce final product** (see attached sample).
- ❖ **Five local fishermen presented a total of 16 Fishermen in the Classroom Programs from June 2008 to June 2009 in 9 Monterey Bay and San Francisco Bay area schools.**
- ❖ **Produced a 7-minute video – The Story of the Shana Rae: A fishing/research vessel**
- ❖ **Continue to increase involvement and number of local fishing community members** in the Voices of the Bay Project and Fishermen in the Classroom Program.

- ❖ **Conducted a 3-day Teacher Professional Development Workshop July 29-31:**
MBNMS education staff Sabrina Beyer and Lisa Uttal hosted the first Voices of the Bay (VoB) fisheries educator's workshop. Twenty middle and high school and community college teachers were trained to implement the newly developed VoB fisheries curriculum. Over three-days, teachers increased their background knowledge of Monterey Bay fisheries through presentations, hands-on activities and field trips involving commercial fishermen, processing plant owners, fisheries scientists, restaurant/market owners and maritime historians. The workshop concluded with teachers joining scientists and fishermen aboard the R/V Fulmar for Humboldt squid research. Teachers will implement the curriculum in their classrooms during the 2009-2010 school year.

- ❖ **Voices of the Bay fisheries education project**

Mission Statement:* Our mission for Voices of the Bay program is to use local fisheries, fishing communities and their rich maritime history and culture as a focal point for students to learn about the marine environment, the ecological and human dimensions of marine resource use, and its management.

Curriculum: The Voices of the Bay fisheries education curriculum introduces 8th-12th grade and community college students to commercial fisheries and the rich cultural tradition of Monterey Bay fishing. The three modules include:

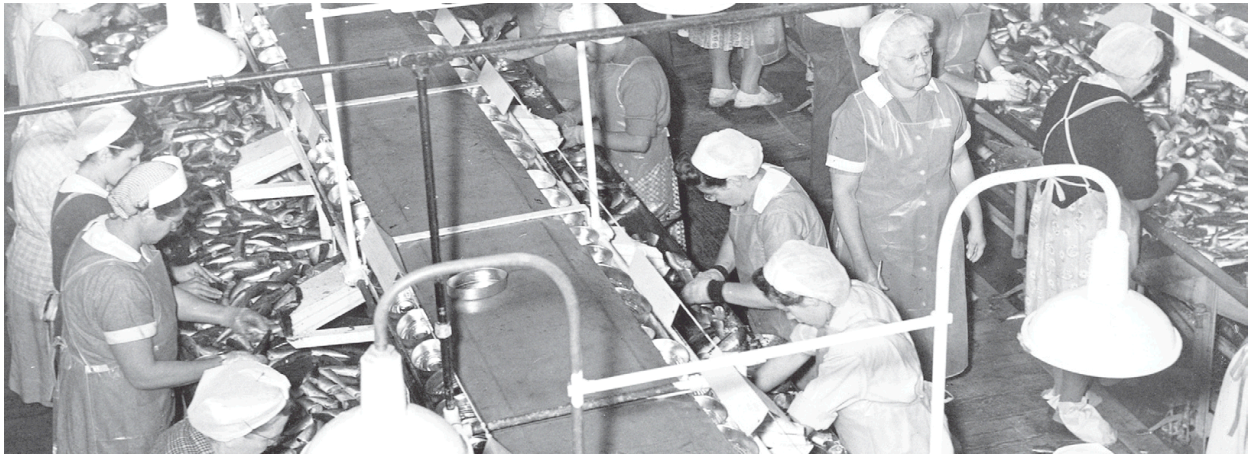
- * "Balance in the Bay," where students are introduced to the concepts of sustainable fishing and thinking critically around a resource management issue through a simulated squid fishing activity.
- * "From Ocean to Table" a socio-economic study tracking the costs involved in bringing seafood from the ocean to the dinner plate.
- * "Capturing the Voices of the Bay" an activity where students learn the skills required to interview members of the local fishing community to capture their unique stories and knowledge.

These modules are designed to be adaptable to other coastal communities. All modules are aligned with National, California State (Science, language arts and social science) and Ocean Literacy standards.

~Seaberry Nachbar



Students interviewing Santa Cruz salmon fisherman, Mike Stiller, 2008. (Photo: Lisa Uttal.)



Sardine canning at the California Packing Corporation ("Cal Pac"), circa 1949. (George Robinson photograph; courtesy Tim Thomas, Monterey Maritime and History Museum.)